

WHAT IS CLAIMED IS:

sub 24

1. An apparatus for detecting a deviation of a camera from shaking, comprising:
a shaking detector configured to detect a shaking of the camera based upon an output
from angular velocity sensors located on camera coordinate axes of the camera;
5 a calculator configured to calculate rotation angles of each of said coordinate axes
based on the output of the angular velocity sensors; and
a rotation regulator configured to rotate an image pickup device around an optical axis
of the camera or an axis in parallel with the optical axis.

2. An apparatus for detecting a deviation of a camera from shaking according to
claim 1, further comprising:
10 an actuator configured to adjust a position of a lens of the camera.

3. An apparatus for detecting a deviation of a camera from shaking according to
claim 1, wherein one of the coordinate axes of the camera coordinates is an optical axis of the
camera.

4. An apparatus for detecting a deviation of a camera from shaking according to
claim 3, wherein at least one of the angular velocity sensors is located on the optical axis of
15 the camera.

5. An apparatus for detecting a deviation of a camera from shaking according to

claim 1, further comprising:

a low pass filter configured to reject a frequency band over 20 Hz from outputs of the angular velocity sensors.

6. An apparatus for detecting a deviation of a camera from shaking according to claim 4, wherein at least one of the angular velocity sensors is located on a horizontal axis of the camera.

7. An apparatus for detecting a deviation of a camera from shaking according to claim 5, wherein a first angular velocity sensor is located on an optical axis of the camera to detect deviation in a vertical direction, and a second angular velocity sensor detects deviation in a horizontal direction.

8. An apparatus for detecting a deviation of a camera from shaking according to claim 1, further comprising:

a deviation correcting device configured to correct the shaking of the camera based on tilt angles calculated by the calculator.

9. An apparatus for detecting a deviation of a camera from shaking according to claim 3, further comprising:

a low pass filter configured to reject a frequency band over 20 Hz from outputs of the angular velocity sensors.

10. An apparatus for detecting a deviation of a camera from shaking according to claim 9, wherein the deviation correcting device adjusts a position of a lens in an optical system of the camera based on the tilt angles calculated by the calculator.

11. An apparatus for detecting a deviation of a camera from shaking according to claim 9, wherein the deviation correcting device adjusts a vari-angle of a vari-angle prism located on an optical axis of the camera based on the tilt angles calculated by the calculator.

12. An apparatus for detecting a deviation of a camera from shaking according to claim 9, wherein the deviation correcting device adjusts a position of an imaging sensor of the camera based on the tilt angles calculated by the calculator.

13. An apparatus for detecting a deviation of a camera from shaking, comprising:
detecting means for detecting a shaking of the camera based upon an output from angular velocity sensor means located on camera coordinate axes of the camera;
calculator means for calculating tilt angles of each of said coordinate axes based on the output of the angular velocity sensor means; and
rotation regulator means for rotating an image pickup means around an optical axis of the camera or an axis in parallel with the optical axis.

14. An apparatus for detecting a deviation of a camera from shaking according to claim 13, further comprising:
actuator means for adjusting a position of a lens of the camera.

15. An apparatus for detecting a deviation of a camera from shaking according to claim 14, further comprising:

low pass filter means for rejecting a frequency band over 20 Hz from outputs of the angular velocity sensor means.

5 16. An apparatus for detecting a deviation of a camera from shaking according to claim 15, wherein one of the coordinate axes of the camera coordinates is an optical axis of the camera.

17. An apparatus for detecting a deviation of a camera from shaking according to claim 16, wherein at least one of the angular velocity sensors is located on an axis in parallel
10 with the optical axis of the camera.

18. An apparatus for detecting a deviation of a camera from shaking according to claim 17, wherein one of the angular velocity sensor means is located on a horizontal axis of the camera coordinate.

19. An apparatus for detecting deviation of a camera from shaking according to claim
15 18, wherein a first pair of the angular velocity sensor means is located on the optical axis of the camera to detect deviation in a vertical direction, and a second pair of the angular velocity sensor means detects deviation in a horizontal direction.

20. An apparatus for detecting a deviation of a camera from shaking according to

claim 13, further comprising:

deviation correcting means for correcting the shaking of the camera based on the tilt angles calculated by the calculator means.

21. An apparatus for detecting a deviation of a camera from shaking according to claim 15, further comprising:

low pass filter means for rejecting a frequency band over 20Hz from outputs of the angular velocity sensor means.

22. An apparatus for detecting a deviation of a camera from shaking according to claim 20, wherein the deviation correcting means adjusts a position of a lens means in an optical system of the camera based on the tilt angles calculated by the calculator means.

23. An apparatus for detecting a deviation of a camera from shaking according to claim 20, wherein the deviation correcting means adjusts a vari-angle of a vari-angle prism means located on an optical axis of the camera based upon the tilt angles calculated by the calculator means.

24. An apparatus for detecting a deviation of a camera from shaking according to claim 20, wherein the deviation correcting means adjusts a position of an imaging means of the camera based on the tilt angles calculated by the calculator means.